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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,281	11/19/2003	Teruhiko Nawata	1217-032245	7413

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EXAMINER	
NGUYEN, NGOC YEN M	
ART UNIT	**PAPER NUMBER**
1754	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,281	NAWATA ET AL.	
	Examiner	Art Unit	
	Ngoc-Yen M. Nguyen	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 10/717,855. Although the conflicting claims are not identical, they are not patentably distinct from each other because the "as-grown single crystal" in Application '855 was formed by similar process as the process used to form the instant single crystal, the product of Application '855 would inherently have the same light transmittance as the instant claimed product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-021,197.

JP '197 discloses a process for producing fluoride single crystal (note title). The fluoride single crystal is formed by Czochralski method using a seed crystal (note paragraph 0011). The fluoride can be calcium fluoride, barium fluoride or magnesium fluoride (note paragraph 0012). The seed crystal can have the main crystal growth plane in the {111} or {100} plane (note paragraph 0010). The single crystal can have a diameter of 25 cm and a thickness of 50 mm (note paragraph 0090).

In the process of JP '197 the pulling rate is 0.5 to 1 mm/hr (note paragraph 0103) and the apparatus used in JP '197 has a means 302 to prevent the heat from the heater 303 from going up (just as the lid 14 in the claimed invention, note instant specification, page 20, lines 1-3).

Since the process of JP '197 uses a slow pulling rate, which is well within the rate used in the claimed invention (i.e., less than 4 mm/hr, note instant specification, page 14, lines 12-21) and has a means to prevent the heat from the heater from going up as discussed above, the as-grown single crystal product of JP '197 would inherently has the same light transmittance as that of the claimed product.

The product of JP '197 anticipates the claimed product.

Claims 1, 3, 5, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al (2004/0099205).

Li discloses a calcium fluoride crystal for making optical elements for transmitting below 200 nm ultraviolet light having a [100] crystallographic orientation and a diameter greater than or equal to about 250 mm (note claim 23).

The product of Li '205 anticipates the claimed product.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 5, 11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sakuma et al (6,332,922).

Sakuma '922 discloses a single crystal of calcium fluoride with a large diameter (20 cm or greater) having superior optical property, which can be used for photolithography with a wavelength of 230 nm or less, was manufactured by annealing calcium fluoride with a size of 210 mm x 52 mm (note column 13, lines 5-15).

The superior optical property as stated above fairly teaches that the light transmittance at a high wavelength, such as 632.8 nm, as required in the instant claim 1, would inherently be very high.

The product of Sakuma '922 anticipates the claimed product.

Alternatively, the process limitation of "as-grown" is noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

Claims 1, 4, 5, 11 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Garibin et al (6,673,150).

Garibin '150 discloses a calcium fluoride monocrystal with diameter of 300 mm (= 30 cm) and a thickness of 70 mm (= 7 cm) (note column 4, lines 20-22). The product of Garibin is used for transmitting UV region light below 200 nm (note column 1, lines 15-19).

The product of Garibin anticipates the claimed product.

Alternatively, the "as-grown" limitation in the preamble is considered as a "product by process" limitation. Se In re Fessmann, In re Brown as stated above.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '197.

In the event that the as grown fluoride single crystal of JP '197 does not have the same light transmittance, the product of JP '197 is disclosed as having excellent in optical property and laser endurance (note paragraph 0153). This fairly suggests that the product can be subsequently treated to obtain the excellent optical property.

Alternatively, the "as-grown" limitation in the preamble is considered as a "product by process" limitation. Se In re Fessmann, In re Brown as stated above.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li '205 in view of JP '197.

For the "as-grown" limitation, see In re Brown and In re Fessmann as stated above.

Li '205 also teaches that beside the exemplified single crystal having [100] crystallographic orientation, high quality [111] oriented calcium fluoride single crystals are also needed (note paragraph 0006).

Li '205 does not specifically disclose the thickness of the single crystal or other fluoride beside calcium fluoride.

JP '197 discloses fluoride single crystal products as stated in the above rejection. JP '197 teaches that the single crystal product is desired to have a thickness of 50 mm and the process for making calcium fluoride single crystal can be used to form other alkaline earth metal fluoride single crystal such as barium fluoride and magnesium fluoride.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce calcium fluoride or other alkaline earth metal fluoride by using the invention of Li '205 having a thickness of 50 mm, as suggested cy JP '197 because such thickness is desired in the art.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stan Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

Ngoc-Yen M. Nguyen
Primary Examiner
Art Unit 1754

nmn
June 27, 2005